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ABSTRACT

School psychologists engaged in ecological assessment need to measure the degree to which children's behaviors fit the demands of the school environment. Although no standardized instruments serve that purpose, rating scales and simulation/role plays can be adapted to measure the person-environment (PE) fit. Although most behavior rating scales address deviance and pathology, the Health Resources Inventory (Gesten, 1976) lends itself to an ecological approach since it measures classroom competencies in five subscales: good student; gutsy (assertive behavior); peer sociability; follows rules; frustration tolerance. To obtain a PE fit score, the teacher rates her/his expectations of the typical student (environmental demand) and then substracts that factor from her/his rating of the referred student (individual competencies). In using simulation/role plays, situational expectations can be contrasted with individual competencies to assess PE fit. The Adolescent Problem Inventory, which presents 44 situations commonly encountered by adolescent boys, can be used in an ecological assessment by subtracting adequate environmental competence from student responses. From the 44 items on the inventory, a picture of the student's strengths and deficits in regard to stimulus (e.g., parents, peers) or response demands (e.g., asking for helping, refusing the request) can be developed. This approach allows for the direct observation of diverse behaviors. (BL)

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Ecological Assessment:
Measuring the "Fit" Between the Child and School

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Abstract

School psychologists engaged in ecological assessment need to assess the degree to which children's behaviors fit the demands of the school environment. However, presently, no standardized instruments exist to serve this purpose. Consequently, this paper introduces and discusses ways in which two well-established assessment techniques--rating scales and simulation/roleplays--can be adapted to measure PE fit for children in schools.

Ecological Assessment:
Measuring the "Fit" between the Child and School

Within the last twenty years an ecological approach to understanding human behavior has gained increased prominence (Bronfenbrenner, 1979; Hobbs, 1982; Apter, 1982). Unlike psychodynamic views which focus on conflicts and forces within the individual or the behavioral approach which focuses on the environment and its contingencies for the individual, the ecological approach focuses simultaneously on both the individual and the environment (Apter, 1982). A central assumption in ecological psychology is that the individual is an integral part of several small, but interrelated ecological systems. For children Hobbs (1982) has noted that typical systems are the family, school and community groups. Since the individual and the environment are in dynamic interaction with each other, the individual cannot be understood apart from the systems of which he or she is a member. Other key assumptions in ecological psychology include the following: first, each eco-system requires certain behaviors and/or competencies from those that inhabit the system--and further that these competencies and behaviors vary from ecosystem to ecosystem. Second, individuals need to adapt to the demands of the ecosystems of which they are members. Failure to do so results in the individual being labelled deviant (Rhodes and Paul, 1978).

School psychologists engaged in ecological assessment, therefore, need to assess the degree to which a child's behavior fits the demands of the school environment. Such an approach assesses

the child in a cultural context (Mercer, 1974), determines situational factors which may be contributing to the deviancy (Wallace and Larsen, 1979), and allows for the program planning required under PL 94-142 (Apter, 1982). Given the importance in ecological assessment of measuring this fit, it is indeed surprising that standardized instruments do not exist to serve this purpose. To date to determine fit school psychologists have relied on interviews and observations (Hobbs, 1975; Newbrough, Walker and Abril, 1978; Plas, 1981). In contrast, a myriad of techniques and tests do exist to measure various aspects of a person, e.g. intelligence, achievement, personality, interests, etc. Consequently, the purpose of this paper is to elucidate and illustrate how two well-established assessment techniques--rating scales and simulation/role playing--, originally developed for other purposes, can be modified and then used to determine the degree to which a student is meeting the demands of the school environment.

Rating Scale Approach

French, Snyder and Cobb (1978) have noted that to quantify person-environment fit (PE fit), it is necessary to measure both the person and the environment on the same numerical scale. Fit can then be determined by subtracting the demands of the environment from the qualities of the person (e.g. F = P-E). If a zero or positive number is obtained, one can assume that the person has the skills to meet the demands of the environment; conversely negative numbers indicate a lack of fit with higher negative numbers indicating a greater discrepancy between environmental demands and the individual's capabilities.

To use French, Snyder and Cobb's (1978) formulation, scales are needed that assess an individual's capabilities and that can be adapted to measure environmental demands. Most child behavior scales, however, do not assess competencies but rather assess deviant behavior and/or pathology [e.g. Burks' Behavior Rating Scale (Burks, 1969); The Elementary School Child Behavior Rating Scale (Spivak and Swift, 1967)]. Thus, while the use of such scales will determine what behaviors are not acceptable and the degree to which the child engages in these behaviors, they will not determine what competencies, e.g. working without supervision, are required and whether or not the child has these competencies. In contrast to these pathology-oriented measures, recently several scales have been developed which measure the child competencies required in schools (cf. Kornblau, 1982; Harter, 1982). An example of the way in which rating scales can be employed in measuring PE fit will be given using the Health Resources Inventory (Gesten, 1976), which was designed to specifically measure classroom competencies in school-age children.

The Inventory as currently designed consists of 54 statements, which are rated on a five point Likert-type scale to indicate how well each statement describes the child's behavior within the classroom (1 = not at all to 5 = very well). All statements describe competencies required to function within a classroom, e.g. "follows class rules," "shares things with others," "is well organized." The items factor into the following five subscales: good student, which includes items related to efficient learning; gutsy, which measures assertive behaviors; peer sociability, which focuses on interpersonal skills; rules which relates

to following classroom dictates and frustration tolerance, which reflects emotional stability especially in the face of blocked goals. Test-retest reliabilities range from .71 to .91 for the factor scores (Gesten, 1976).

It may be noted that as this instrument is currently employed only the child is rated; no separate rating is made of classroom (environment) demands. However, by having the teacher rate what she or she expects from the typical student (environmental demand), rating the referred student (individual competencies) and subtracting the factor scores for the environmental demands from those of the individual, a quantitative measure of fit can be obtained. For example, consider the scores in Table 1 obtained on a 9 year old boy referred for continually disturbing the classroom.

Table 1

Competence, Demand and Fit Scores

Factor	Child Competence (C)	Environmental Demand (D)	Fit (C-D)
Good Student	2.60	2.52	+ .08
Gutsy	2.40	3.10	- .70
Peer Socialization	4.57	4.56	+ .01
Rules	2.07	3.20	-1.13
Frustration Tolerance	2.50	2.75	- .25

Inspection of these results indicates that the child is meeting the demands for learning and for establishing peer relationships.

However, he is not able to meet demands for dealing with frustration, for following rules or for being appropriately assertive.

In sum, then, in this approach an established rating scale is used to measure the child's competencies and the environmental demands. By subtracting the demands score from the competencies' score, a measure of fit can be obtained in a relatively short time with less direct involvement on the school psychologist's part than would be required by observations or by interviews.

Role Playing/Simulation Approach

The second approach to measuring person-environment fit is derived from social skills training. Numerous programs have recently been developed to teach social skills (e.g. Kelly, 1982), and concomitantly instruments have been designed to assess the degree to which an individual possesses these skills, typically by using role-playing situations. Following Goldfried and D'Zurilla's (1969) guidelines, developers of such instruments follow five sequential steps: (1) identify environments that the target individuals typically encounter by interviewing the individuals (e.g. students); (2) based on the above, develop items in a standard format; (3) gather responses to the items from individuals with varying degrees of competence; (4) for each item obtain judges ratings of the competence of each response; and (5) select items for the final inventory which can reliably be rated and which distinguish between incompetent and competent individuals. In developing these inventories, then, situations common to a group are determined as are the competencies required by each situation.

Hence this technique is capable of assessing environmental demands as well as individual competencies. This capability, however, has yet been applied to the measurement of PE fit.

While a variety of instruments exist (cf. Gaffney and McFall, 1981; MacDonald, 1978), the Adolescent Problem Inventory (API) (Freedman, Rosenthal, Donahoe, Schlundt and McFall, 1978) will be used to illustrate this approach to measuring PE fit.

The API consists of 44 situations commonly encountered by adolescent boys. A wide range of environments are covered including the school, family and neighborhood. Situations are presented one at a time via audiotape and the adolescent describes how he would behave in that situation. Responses are rated on a 5 point scale (8 = very competent, 0 = very incompetent) with 6 indicating adequate competence for the situation. PE fit can be determined by subtracting 6 (environmental demand) from each of the subject's responses (individual competence). Those items which result in negative values identify situations in which the individual does not behave competently. Because the items do not factor into subscales, the school psychologist should look for common strengths and deficits in terms of either stimulus (e.g. parents, teachers, peers, etc.) or response demands (e.g. asking for help, refusing a request). For example, assume the eight school items on the API were administered to a rather shy high school freshman. Analysis of the results in terms of stimulus and response demands indicates that this young man functions competently with his peers at school. He is able to cope with teasing, deny inappropriate requests, etc. However,

when dealing with adults, particularly in confrontative situations (e.g. being accused by a teacher of breaking a school rule), he becomes so withdrawn and inarticulate that he is unable to express himself and present his side of the story.

In using this approach to measuring fit, the school psychologist assumes that the situations and the demands contained in the inventory used are similar to those encountered by the student in his or her present school. If that assumption is tenable, fit for each situation can again be assessed by subtracting the numerical equivalent of a competent response from that obtained by the student. The advantage of this approach is that it allows for the direct observation of diverse behaviors. In using this role playing approach the school psychologist may select situations salient to adjustment in school. In consultation with specific teachers and/or administrators, it is also possible to design role-playing tasks unique to the child's particularistic classroom environment.

Summary

This paper has introduced and discussed the ways in which two well-established assessment techniques--rating scales and simulation/role plays--can be adapted to measure person-environment fit for children in schools. In essence, we propose that each of these types of assessment devices may be used to measure environmental demands and the degree to which children have competence needed to meet those demands, hence providing indices of PE fit. The purpose of providing two rather diverse methodologies for measuring PE fit is because in some instances it may be

possible to meet the ideal of using multiple and yet different methods, each with its own problems and strengths, to answer important questions related to a child's functioning in school (Campbell and Fiske, 1959).

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